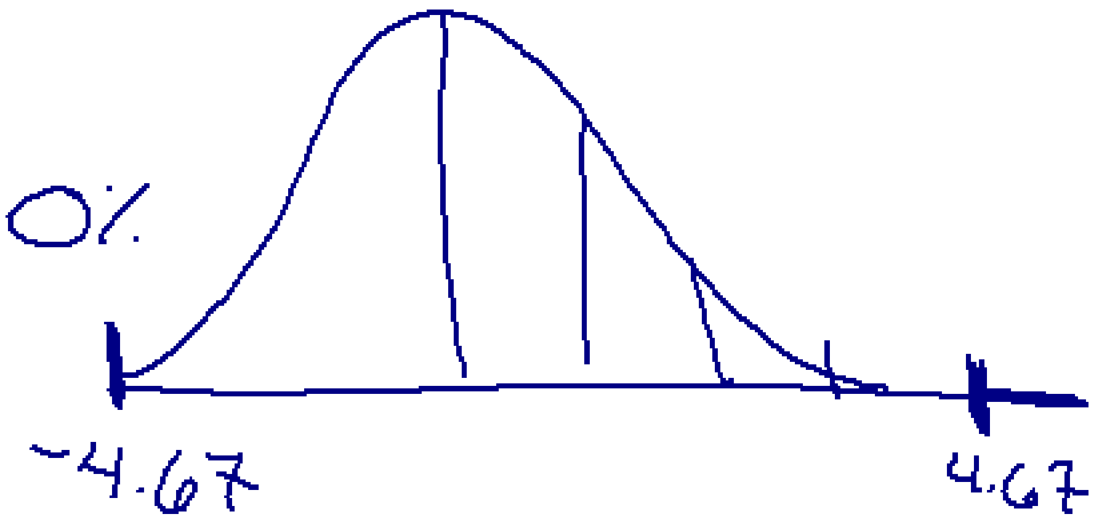
① Sue $z = 2.67$

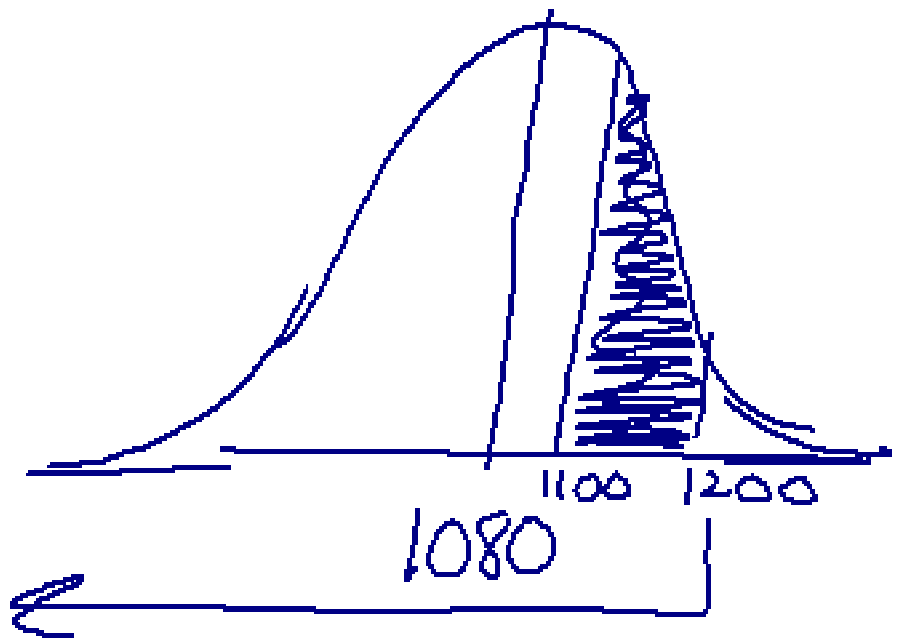
Jim $z = 2.17$

0.82%

ⓔ $z = 4.67$ 0%

ⓕ 100%





1200 $z = 1.33$ 90.32%

1100 $z = 0.33$ − 57.93%

32.39%

(16) (17)

women

$\bar{x} = 495$

$s = 109$

men

$\bar{x} = 531$

531

$$z = \frac{531 - 495}{109}$$

Ex

$\bar{x} = 75$

$s = 8$

$$z = \frac{82-75}{8} = \cancel{0.9} \quad 0.875$$

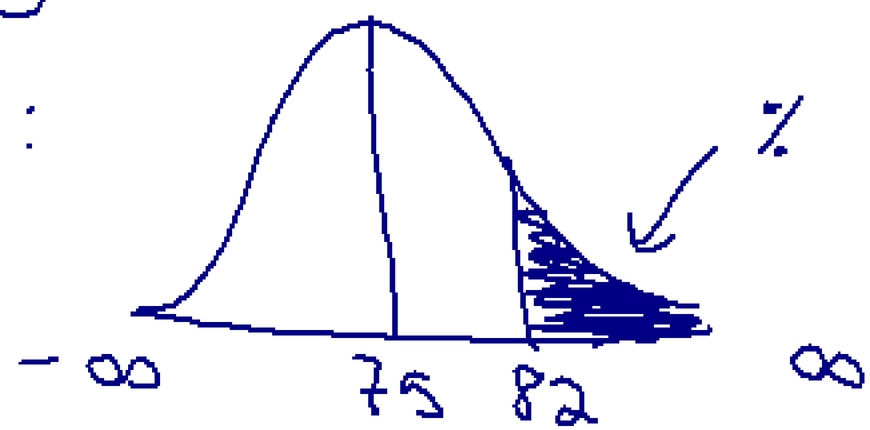
$100\% - 81.59\% = 18.41\%$

* round

normalcdf(lower bound, upper bound, $\bar{x}$, s)

- used for finding % when given boundaries

- Ex:

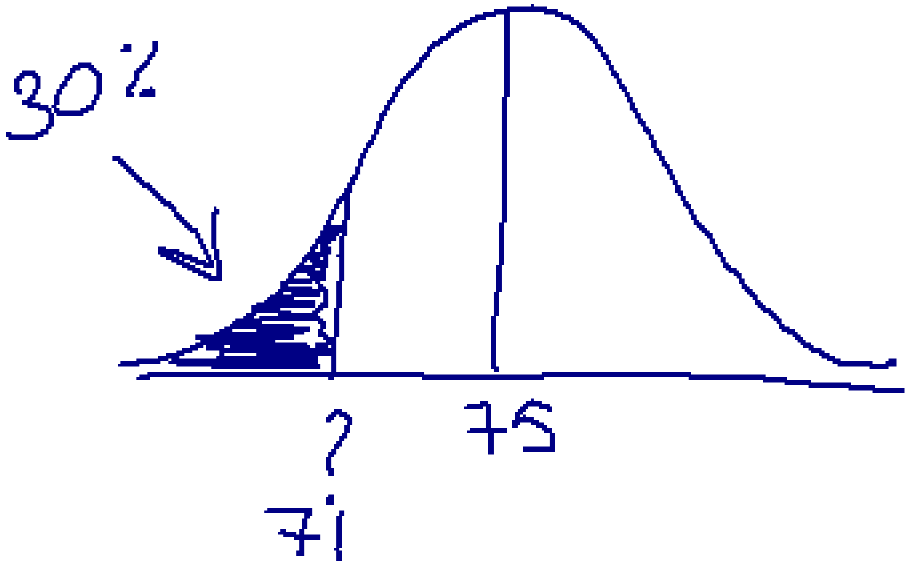


- $\infty = E99$

  $-\infty = -E99$

$\bar{x} = 75$

$s = 8$

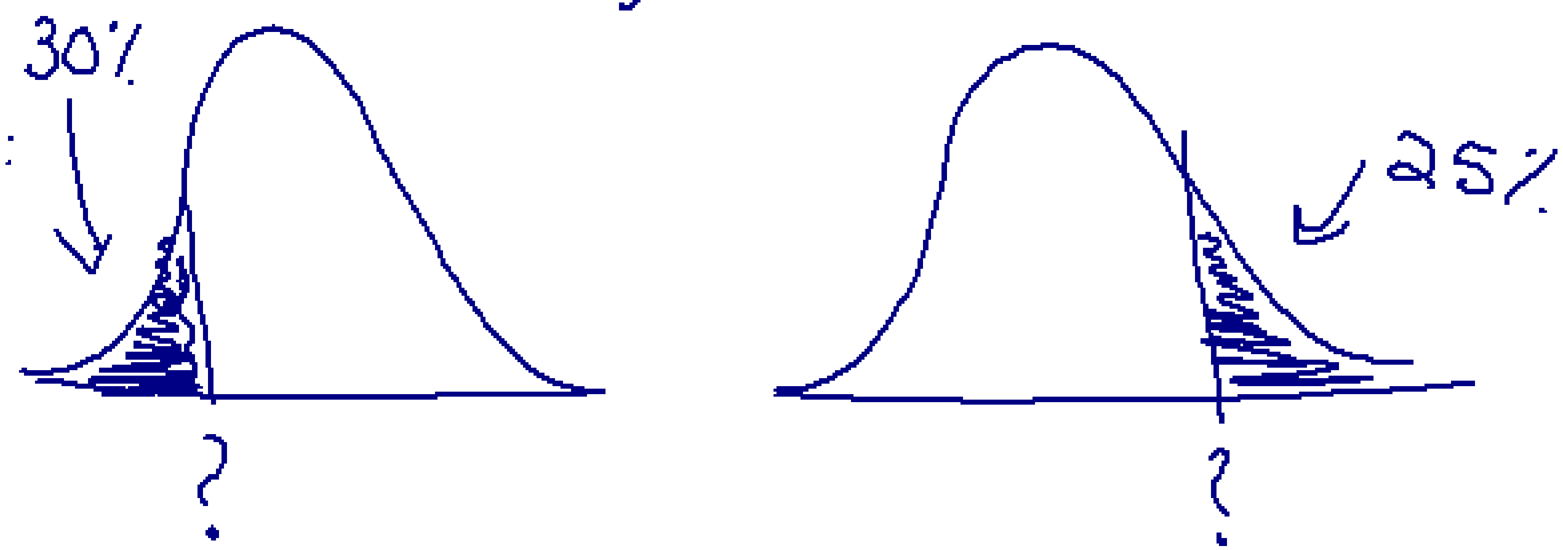


$$-0.5 = \frac{x - 75}{8}$$

$$x = 71$$

invnorm(% below observation, $\bar{x}$, s)
(in decimal)

- Used for problems where we have %, want the boundary
- Ex:



- only do % **below**

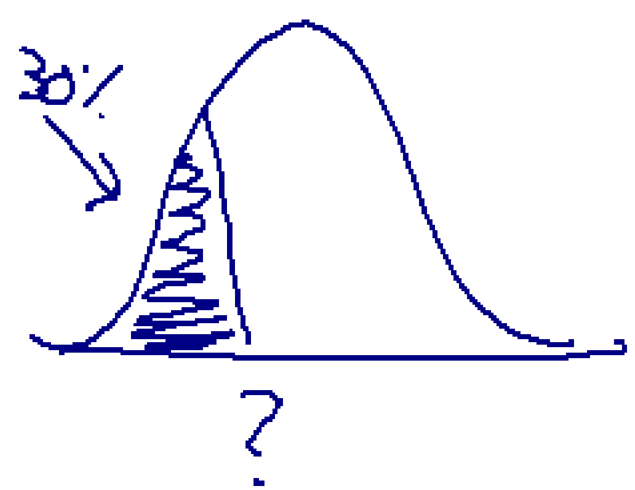
* Probability Notation

$P(X > 82) = \text{normalcdf}(82, E99, 75, 8)$

$= \_\_\_\_\_ \%$

$P(70 < X < 80) = \text{normcdf}(70, 80, 75, 8)$

$= \_\_\_\_\_ \%$



$P(X < ?) = 30\%$

$\text{invnorm}(0.3, 75, 8) = \_\_\_\_\_$

① $\bar{x} = 60$

$s = 17$

ⓐ $P(X > 60) = \text{normcdf}(60, E99, 60, 17)$

$= 50\%$

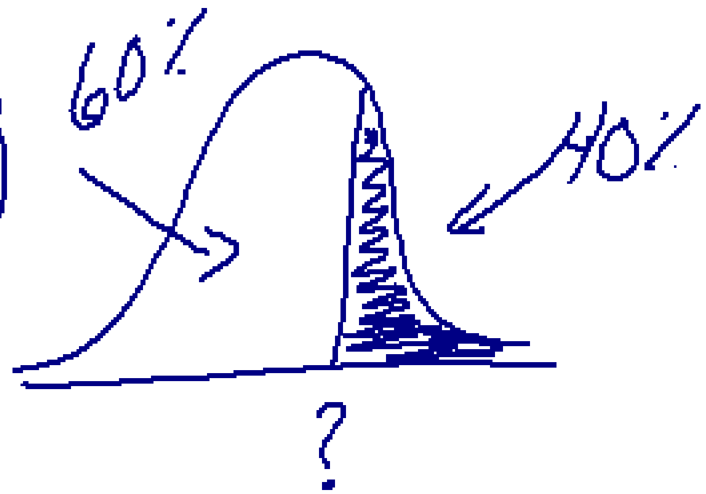
ⓑ $P(X > 70) = \text{norm}(70, E99, 60, 17)$

$= 27.82\%$

ⓒ $P(40 < X < 80) = \text{normcdf}(40, 80, 60, 17)$

$= 76.06\%$

(f)



$P(x > ?) = 40\%$

invnorm(0.6, 60, 17)

? = 64.31 days

(9)

$P(X < ?) = 30\%$

invnorm(0.3, 60, 17) =

? = 51.09 days

(a) $P(x > 16) = 99.38\%$

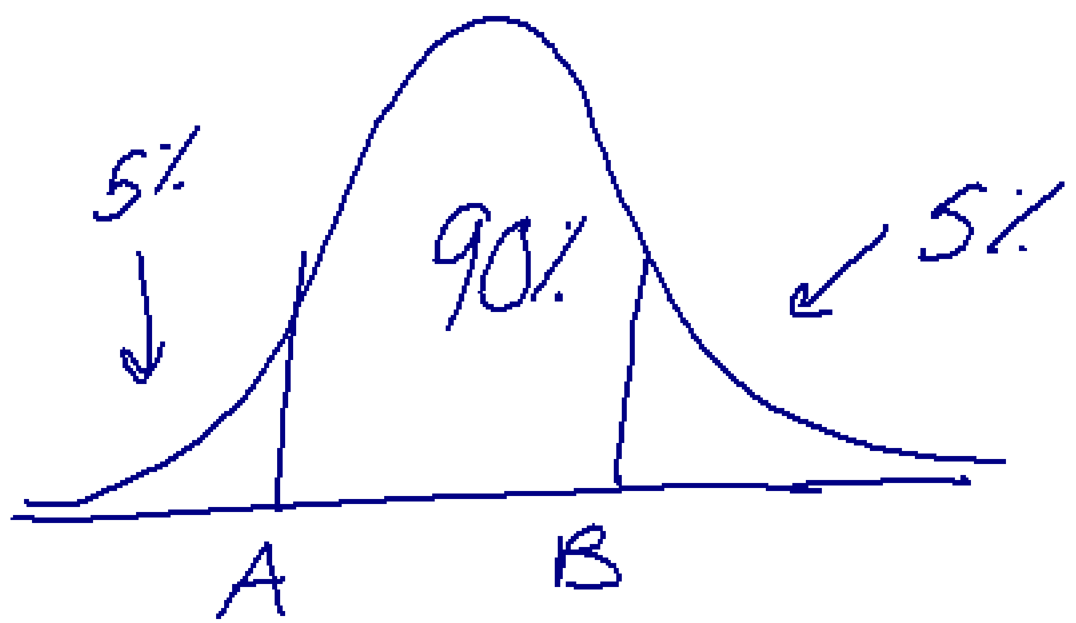
(b) $P(x > 16.2) = 0.62\%$

(c) $P(15.95 < x < 16.15) = 89.43\%$

(d) $P(x < 15.85) = 2.06 \times 10^{-10}$

(e) $P(x < ?) = 10\%$ $? = 16.05$ oz

(f) $P(x > ?) = 80\%$ $? = 16.07$ oz



A= invnorm(0.05, 16.1, 0.04)

B= invnorm(0.95, 16.1, 0.04)